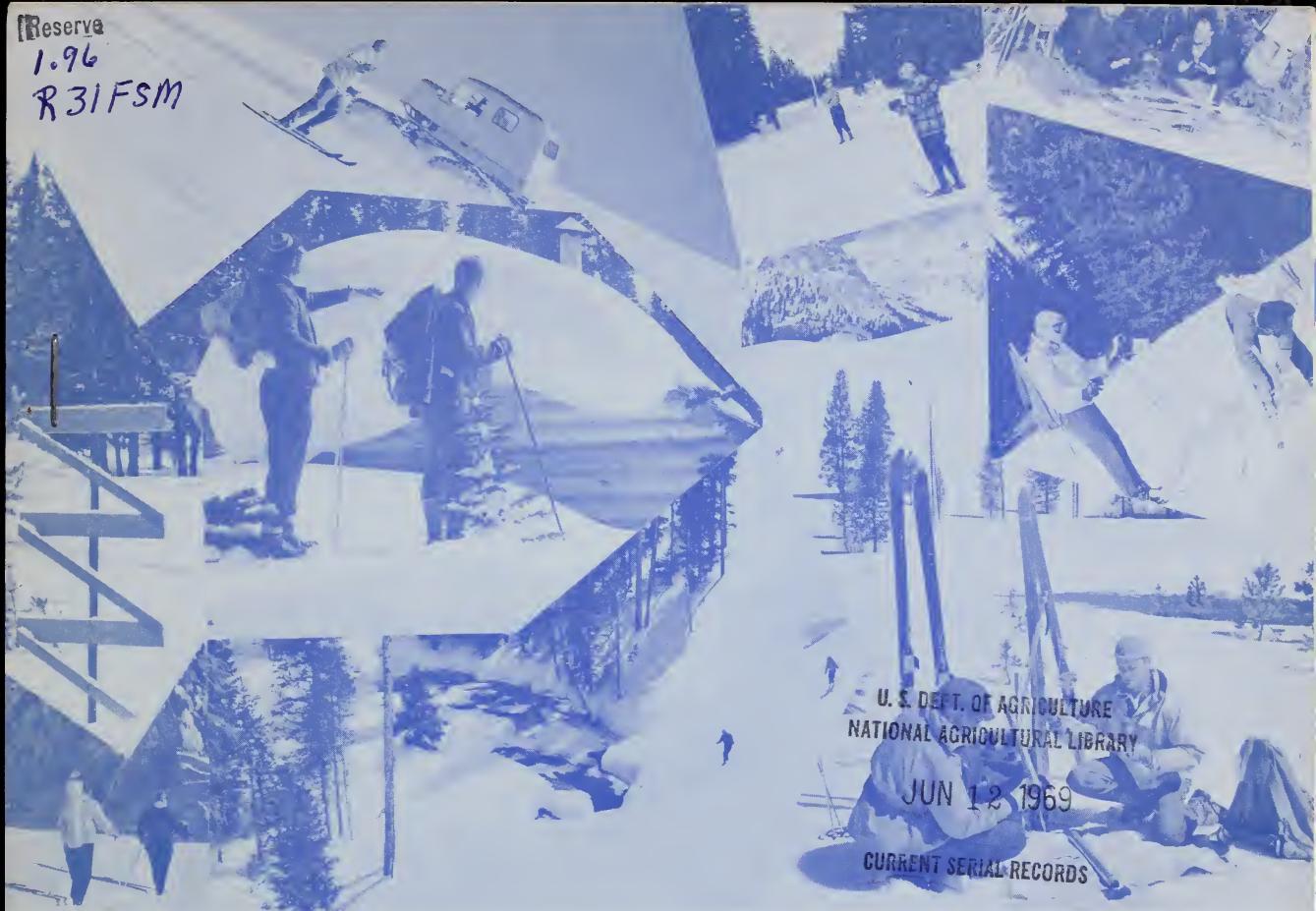


Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

Reserve
1.96
R31FSM



U.S. DEPT. OF AGRICULTURE
NATIONAL AGRICULTURAL LIBRARY

JUN 12 1969

CURRENT SERIAL RECORDS

WATER SUPPLY OUTLOOK FOR COLORADO AND NEW MEXICO

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

UNITED STATES DEPARTMENT of AGRICULTURE--SOIL CONSERVATION SERVICE

and

COLORADO AGRICULTURAL EXPERIMENT STATION
STATE ENGINEER of COLORADO
and STATE ENGINEER of NEW MEXICO

Data included in this report were obtained by the agencies named above in cooperation with the Bureau of Reclamation, U.S. Forest Service, National Park Service, Corps of Engineers and other Federal, State, and private organizations.

AS OF
MAY 1, 1969

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1400 snow courses in Western United States and in the Columbia Basin in British Columbia. In the near future, it is anticipated that automatic snow water equivalent sensing devices along with radio telemetry will provide a continuous record of snow water equivalent at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 209, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	P. O. Box "F", Palmer, Alaska 99645
Arizona	6029 Federal Building, Phoenix, Arizona 85205
Colorado (N. Mex.)	12417 Federal Building, Denver, Colorado 80521
Idaho	P. O. Box 38, Boise, Idaho 83707
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Building, Salt Lake City, Utah 84111
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 340, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



WATER SUPPLY OUTLOOK FOR COLORADO AND NEW MEXICO

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

KENNETH E. GRANT

ADMINISTRATOR
SOIL CONSERVATION SERVICE
WASHINGTON, D.C.

Released by

FRED A. MARK

STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
DENVER, COLORADO

KENNETH L. WILLIAMS

STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
ALBUQUERQUE, NEW MEXICO

In Cooperation with

RUE JENSEN

DIRECTOR
COLORADO AGRICULTURAL
EXPERIMENT STATION

STEVEN E. REYNOLDS

STATE ENGINEER
STATE OF NEW MEXICO

RALPH OWENS

STATE ENGINEER
STATE OF COLORADO

Report prepared by

JACK N. WASHICHEK, Snow Survey Supervisor
and

RONALD E. MORELAND, Assistant Snow Survey Supervisor

SOIL CONSERVATION SERVICE
SPRUCE HALL
COLORADO STATE UNIVERSITY
FT. COLLINS, COLORADO 80521

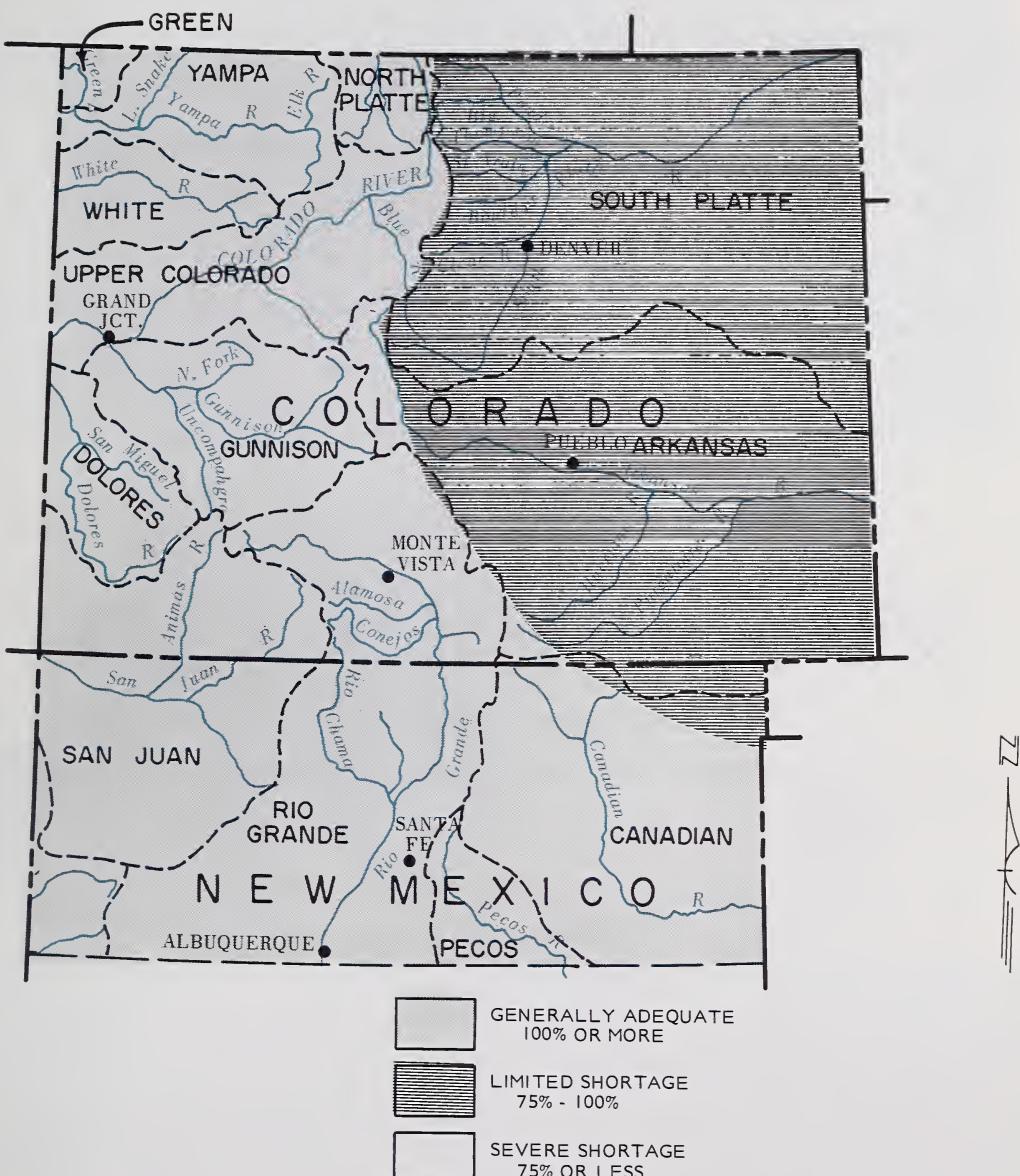
TABLE OF CONTENTS

WATER SUPPLY OUTLOOK BY MAJOR WATERSHED AREAS

WATERSHED I	- SOUTH PLATTE RIVER WATERSHED
	Describes water supply conditions in Fort Collins, Big Thompson, Longmont, Boulder Valley, Jefferson, Teller-Park, Douglas County, Morgan, Kiowa, West Arapahoe, West Adams, East Adams, Platte Valley, Southeast Weld, and West Greeley Soil Conservation Districts.
WATERSHED II	- ARKANSAS RIVER WATERSHED
	Describes water supply conditions in Lake County, Upper Arkansas, Fremont, Custer County Divide, Fountain Valley, Black Squirrel, Horse-Rush Creek, Central Colorado, Turkey Creek, Pueblo, Bessemer, Olney Boone, Cheyenne, Upper Huerfano, Stonewall, Spanish Peaks, Purgatoire, Branson Trinchera, Western Baca County, Southeastern Baca County, Two Buttes, Bent, Timpas, Northeast Prowers, Prowers, West Otero, East Otero, and Big Sandy Soil Conservation Districts.
WATERSHED III	- RIO GRANDE WATERSHED (COLORADO)
	Describes water supply conditions in Rio Grande, Center, Mosca Hooper, Mt. Blanca, Sanches, and Culebra Soil Conservation Districts.
WATERSHED IV	- RIO GRANDE WATERSHED (NEW MEXICO)
	Describes water supply conditions in Lower Cebolla, Abiquiu-Vallecitos, Eastern Taos, Lindrith, Coyote-Canones, Espanola Valley, Pojoaque, Jemez, Santa Fe-Sandoval, Tijeras, Cuba, and Edgewood Soil Conservation Districts.
WATERSHED V	- DOLORES, SAN JUAN, AND ANIMAS RIVERS WATERSHED
	Describes water supply conditions in San Miguel Basin. Dove Creek, Dolores, Mancos, LaPlata, Pine River, San Juan, and Glade Park Soil Conservation Districts.
WATERSHED VI	- GUNNISON RIVER WATERSHED
	Describes water supply conditions in Delta, Gunnison, Cimarron, Shavano, and Uncompahgre Soil Conservation Districts.
WATERSHED VII	- COLORADO RIVER WATERSHED
	Describes water supply conditions in DeBeque, Lower Grand Valley, Bookcliff, Eagle County, Middle Park, Glade Park, Upper Grand Valley, Plateau Valley, South Side, and Mt. Sopris Soil Conservation Districts.
WATERSHED VIII	- YAMPA, WHITE AND NORTH PLATTE RIVERS WATERSHED
	Describes water supply conditions in Yampa, Moffat, West Routt, East Routt, North Park, Upper White River, Lower White River, and Douglas Creek Soil Conservation Districts.
WATERSHED IX	- LOWER SOUTH PLATTE RIVER WATERSHED
	Describes water supply conditions in Sedgwick, South Platte, Haxton, Peetz, Padroni, Morgan, Rock Creek, and Yuma Soil Conservation Districts.
APPENDIX I	- SNOW SURVEY MEASUREMENTS
APPENDIX II	- SOIL MOISTURE MEASUREMENTS

WATER SUPPLY OUTLOOK

as of
May 1, 1969



The map on this page indicates the most probable water supply as of the date of this report. Estimates assume average conditions of snow fall, precipitation and other factors from this date to the end of the forecast period. As the season progresses accuracy of estimates improve. In addition to expected streamflow, reservoir storage, soil moisture in irrigated areas, and other factors are considered in estimating water supply. Estimates apply to irrigated areas along the main streams and may not indicate conditions on small tributaries.

WATER SUPPLY CONDITIONS

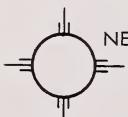
as of

May 1, 1969

SNOWFALL DURING APRIL WAS DEFICIENT OVER BOTH COLORADO AND NEW MEXICO. THE WEATHER THIS MONTH WAS TYPIFIED BY ABOVE SEASONAL TEMPERATURES AND BELOW NORMAL SNOWFALL. AREAS IN COLORADO THAT WILL HAVE SOME WATER SHORTAGES ARE: SOUTH PLATTE AND ITS NORTHERN TRIBUTARIES AND THE ARKANSAS BASIN. NEW MEXICO SHOULD HAVE NORMAL TO ABOVE FLOWS OVER MOST OF THE STATE. THE SAN JUAN DRAINAGE IS IN EXCELLENT CONDITION. RIO GRANDE SHOULD FLOW SLIGHTLY BETTER THAN LAST YEAR AND BETTER THAN AVERAGE.



COLORADO -- ALL OF COLORADO HAD LESS THAN NORMAL SNOWFALL DURING APRIL. THE SOUTH PLATTE AND TRIBUTARIES AND ARKANSAS WILL HAVE SOME WATER SHORTAGE THIS SUMMER. THE ARKANSAS BASIN IS BELOW NORMAL IN CARRY-OVER STORAGE AND WILL HAVE MORE SHORTAGES THAN ANY OTHER AREA. THE BEST SNOW PACK IN THE STATE IS IN THE SOUTHWEST CORNER. THE DOLORES, ANIMAS, AND SAN JUAN RIVERS WILL FLOW ABOVE THE 1953-67 AVERAGE. EASTERN PLAINS ARE DRY. WARM TEMPERATURES HAVE STARTED SNOW MELT EARLY THIS YEAR.



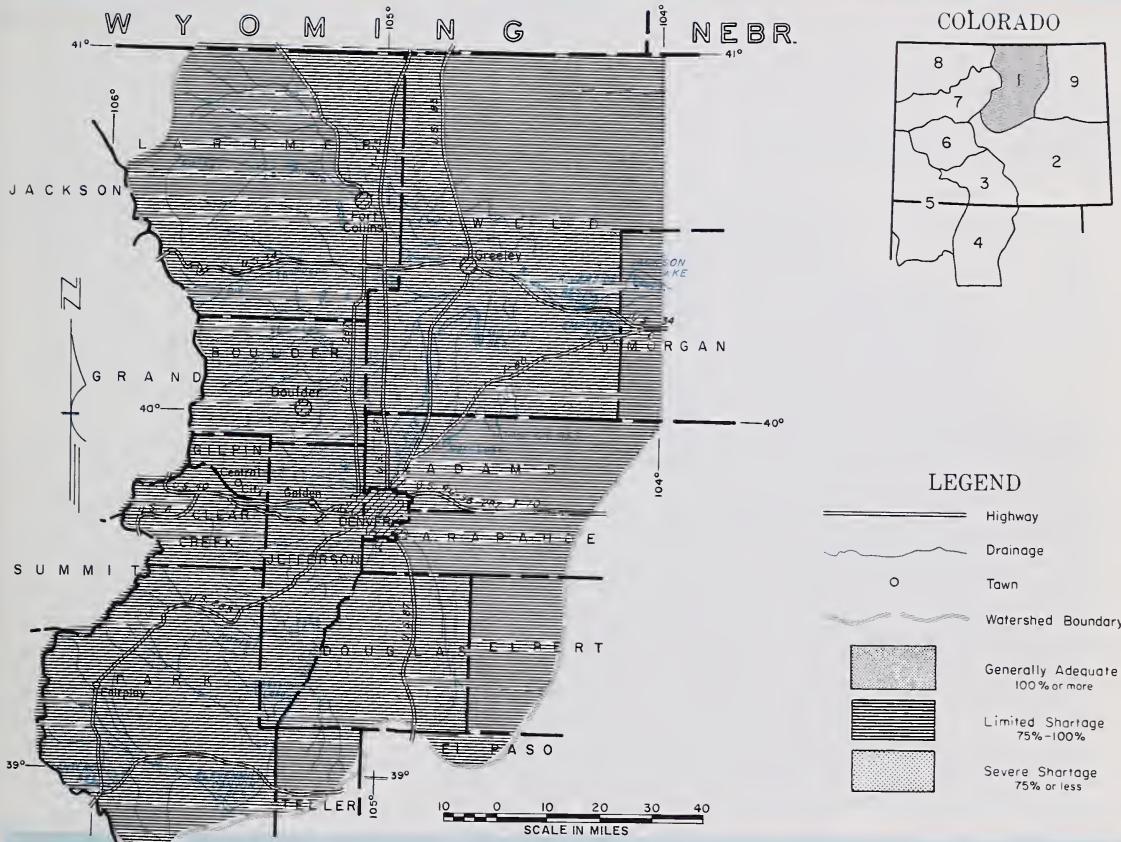
NEW MEXICO -- PRECIPITATION IN THE FORM OF SNOW OR RAIN HAS BEEN LESS THAN NORMAL DURING APRIL. THIS REDUCED FORECASTS SOMEWHAT, HOWEVER, STREAMFLOW SHOULD STILL BE ABOVE THE 1953-67 AVERAGE. WARM, DRY WEATHER HAS STARTED STREAMS FLOWING SOMEWHAT SOONER THAN USUAL. SOIL MOISTURE CONDITIONS IN THE IRRIGATED AREAS ARE REPORTED AS FAIR. SPRING RAINS ARE BADLY NEEDED. RESERVOIR STORAGE IS SLIGHTLY BELOW NORMAL EXCEPT ON THE SAN JUAN.

**WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE
SOUTH PLATTE RIVER WATERSHED IN COLORADO**

as of

May 1, 1969

**U. S. DEPARTMENT OF AGRICULTURE · SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION, STATE ENGINEERS OF COLORADO AND NEW MEXICO**



YOUR WATER SUPPLY

FOR THE SECOND STRAIGHT MONTH SNOWFALL HAS BEEN MUCH BELOW NORMAL. ONLY A COUPLE OF SMALL STORMS WERE RECORDED IN THE MOUNTAINS OF THE SOUTH PLATTE. STREAMFLOW FORECASTS WERE LOWERED 5 TO 10% OVER MOST OF THE BASIN. THE ST. VRAIN DROPPED TO A VERY LOW OF 66% OF NORMAL. APRIL ALSO HAD MUCH ABOVE NORMAL TEMPERATURES. MELTING SNOW STARTED FILLING THE Voids IN MOUNTAIN SOILS. VALLEY SOILS ARE DRY.

This report prepared by

JACK N. WASHICHEK and RONALD E. MORELAND
SOIL CONSERVATION SERVICE, COLORADO STATE UNIVERSITY
FORT COLLINS, COLORADO

Issued by

F. A. MARK...STATE CONSERVATIONIST E. A. NICHOLSON...AREA CONSERVATIONIST
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
DENVER, COLORADO DENVER, COLORADO

The Conservation of Water begins with the Snow Survey

STREAMFLOW FORECASTS (1,000 Ac.Ft.)

WATER SUPPLY OUTLOOK expressed "Poor,Avg,Good"

STREAM and STATION	FORECAST	THIS YEAR % AVE.	15 YR. AVE. 1953-67
Big Thompson at Drake (2)	80	80	100
Boulder at Orodell	38	78	49
Cache La Poudre at Canon Mouth (1)	165	77	215
Clear Creek at Golden (3)	92	77	119
Saint Vrain at Lyons	46	66	70

(1) Observed flow minus trans-basin diversions.

(2) Observed flow plus by-pass to power plants.

(3) Observed flow minus diversions through Jones Pass.

STREAM	FLOW PERIOD	
	April May	June Thru Sept.
Bear Creek	Good	Avg.
Coal Creek	Good	Avg.
Deer Creek	Good	Avg.
North Fork of So. Platte	Good	Avg.
North Fork of Cache La Poudre	Good	Avg.
Ralston Creek	Good	Avg.
Rock Creek	Good	Avg.

SUMMARY of SNOW MEASUREMENTS

RIVER	NUMBER of COURSES AVERAGED	THIS YEARS SNOW AS PERCENT OF		Last Year	Average
		Last Year	Average		
Boulder	3	40	58		
Big Thompson	5	64	70		
Cache La Poudre	8	60	81		
Clear Creek	5	62	63		
Saint Vrain	3	36	39		
South Platte	2	50	66		

AVAILABLE SOIL MOISTURE

RIVER BASIN	NUMBER of STATIONS	THIS YEARS MOISTURE AS PERCENT OF	
		Last Year	Average
South Platte	2	116	103
Clear Creek	2	105	115
Boulder	1	85	77
Saint Vrain	2	107	107
Big Thompson	3	114	115
Cache La Poudre	2	147	113

RESERVOIR STORAGE (1,000 Ac. Ft.) Measured First of Month

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVE. 1953-67
Antero	33.0	15.9	15.9	10.6
Barr Lake	32.2	27.8	28.8	23.0
Black Hollow	8.0	3.5	3.4	3.5
Boyd Lake	44.0	38.9	42.8	27.7
Cache La Poudre	9.5	8.5	8.9	8.0
Carter Lake	108.9	90.8	98.8	86.4
Chambers Lake	8.8	2.5	3.7	3.3
Cheesman	79.0	49.6	51.9	50.2
Cobb Lake	34.3	14.7	19.9	9.8
Eleven Mile	97.8	94.6	93.9	72.9
Fossil Creek	11.6	8.4	9.3	7.0
Gross	43.1	30.0	24.6	17.4

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVE. 1953-67
Halligan	6.4	6.4	6.4	5.6
Horsetooth	143.5	116.8	124.3	116.9
Lake Loveland	14.3	5.8	12.3	9.0
Lone Tree	9.2	4.4	9.0	7.9
Mariano	5.4	5.6	5.4	2.0
Marshall	10.3	3.6	7.0	4.0
Marston	18.0	15.4	16.8	15.5
Milton	24.4	17.4	18.1	11.0
Standley	42.0	18.2	26.5	11.9
Terry Lake	8.2	4.5	6.3	5.3
Union	12.7	3.3	12.1	8.0
Windsor	18.6	11.5	15.3	14.7

Return if not delivered
 UNITED STATES DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE
 SNOW SURVEY
 COLORADO STATE UNIVERSITY
 FORT COLLINS, COLORADO 80521

OFFICIAL BUSINESS

 POSTAGE AND FEES PAID
 U. S. DEPARTMENT OF AGRICULTURE

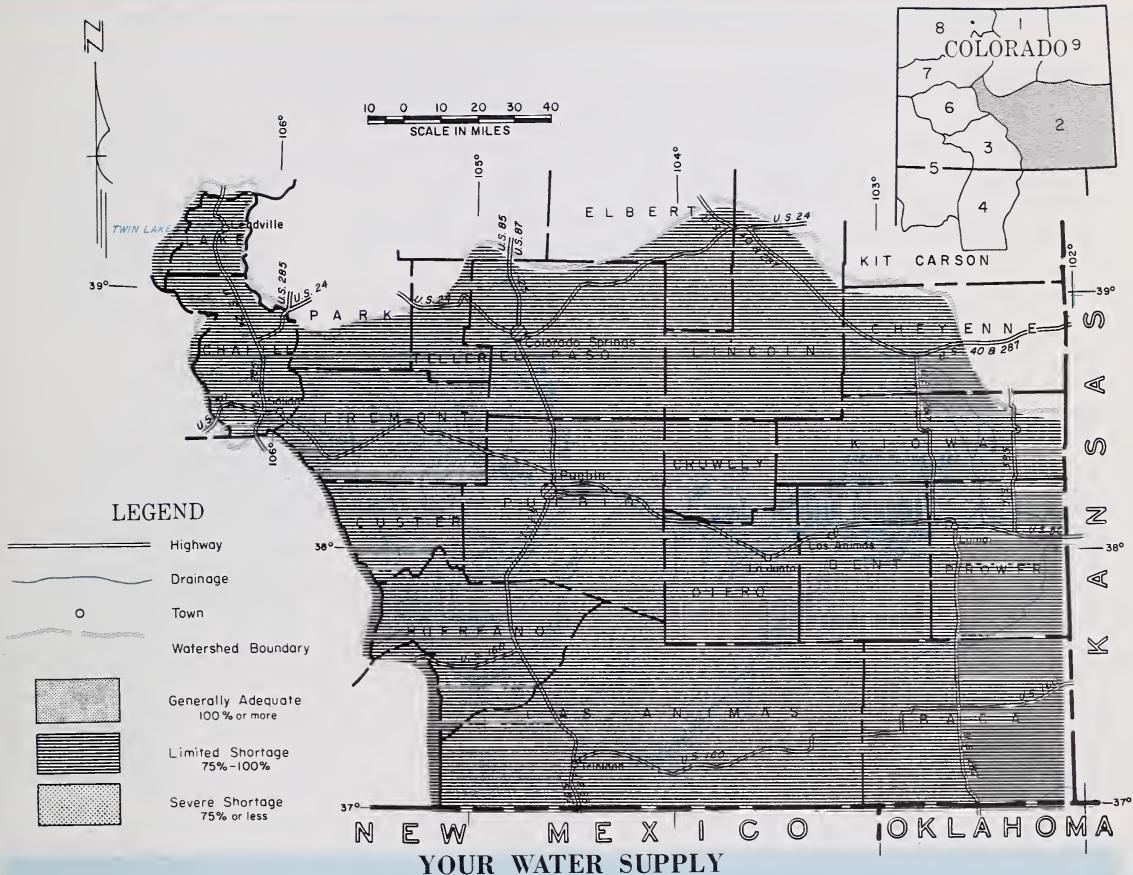
FIRST CLASS MAIL

**WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE
ARKANSAS RIVER WATERSHED IN COLORADO**

as of

May 1, 1969

**U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION, STATE ENGINEERS OF COLORADO AND NEW MEXICO**



SOME WATER SHORTAGES CAN BE ANTICIPATED FOR THIS SEASON. SNOWFALL WAS BELOW NORMAL DURING THE MONTH, THUS, STREAMFLOW FORECASTS WERE LOWERED 5 TO 10%. CARRY-OVER STORAGE IS 115% OF LAST YEAR, BUT ONLY 67% OF NORMAL. SOIL MOISTURE CONDITIONS IN THE IRRIGATED AREAS ARE REPORTED AS FAIR. MOUNTAIN SOILS ARE WET, BECAUSE OF MELTING SNOW. UNSEASONABLE WARM TEMPERATURES HAVE STARTED SNOW MELT EARLY THIS YEAR.

This report prepared by

JACK N. WASHICHEK and RONALD E. MORELLO
SOIL CONSERVATION SERVICE, COLORADO STATE UNIVERSITY
FORT COLLINS, COLORADO

Issued by

F. A. MARK -- STATE CONSERVATIONIST
W. O. McCORKLE -- AREA CONSERVATIONIST
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
DENVER, COLORADO
LA JUNTA, COLORADO

The Conservation of Water begins with the Snow Survey

STREAMFLOW FORECASTS (1,000 Ac. Ft.) Apr-Sept

WATER SUPPLY OUTLOOK expressed "Poor,Avg,Good"

STREAM and STATION	FORECAST	THIS YEAR %AVE.	15 YR. AVE. 1953-67
Arkansas nr Pueblo (4)	255	86	298
Arkansas at Salids (4)	275	89	309
Cucharas nr LaVeta	10	83	12
Purgatoire at Trinidad	45	98	46

(4) Observed flow plus change in Clear Creek, Twin Lakes, and Sugar Loaf Reservoirs minus diversions through Bush - Ivanhoe and Twin Lake Tunnels and Ewing, Front Pass, Wurtz and Columbine ditches.

SUMMARY of SNOW MEASUREMENTS

RIVER	NUMBER of COURSES AVERAGED	THIS YEARS SNOW AS PERCENT OF	
		Last Year	Average
Arkansas	10	49	70
Cucharas and Purgatoire	--	--	--

AVAILABLE SOIL MOISTURE

RIVER BASIN	NUMBER of STATIONS	THIS YEARS MOISTURE AS PERCENT OF	
		Last Year	Average
Arkansas	3	69	80
Cucharas and Purgatoire	1	96	98

RESERVOIR STORAGE (1,000 Ac. Ft.) Measured First of Month

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVE. 1953-67
Adobe Creek	61.6	0.0	5.8	10.6
Clear Creek	11.4	8.1	8.4	6.4
Cucharas	40.0	0.7	0.0	4.8
Great Plains	150.0	11.5	50.5	35.9
Horse Creek	26.9	0.0	0.2	4.7

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVE. 1953-67
John Martin	353.9	24.7	0.0	67.9
Meredith	41.9	0.0	0.8	9.3
Model	15.0	1.5	1.5	2.4
Turquoise	130.0	37.1	3.7	6.2
Twin Lakes	57.9	27.2	25.8	17.7

Return if not delivered
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SNOW SURVEY
COLORADO STATE UNIVERSITY
FORT COLLINS, COLORADO 80521

OFFICIAL BUSINESS

POSTAGE AND FEES PAID
U. S. DEPARTMENT OF AGRICULTURE

FIRST CLASS MAIL

**WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE
UPPER RIO GRANDE WATERSHED IN COLORADO**

as of

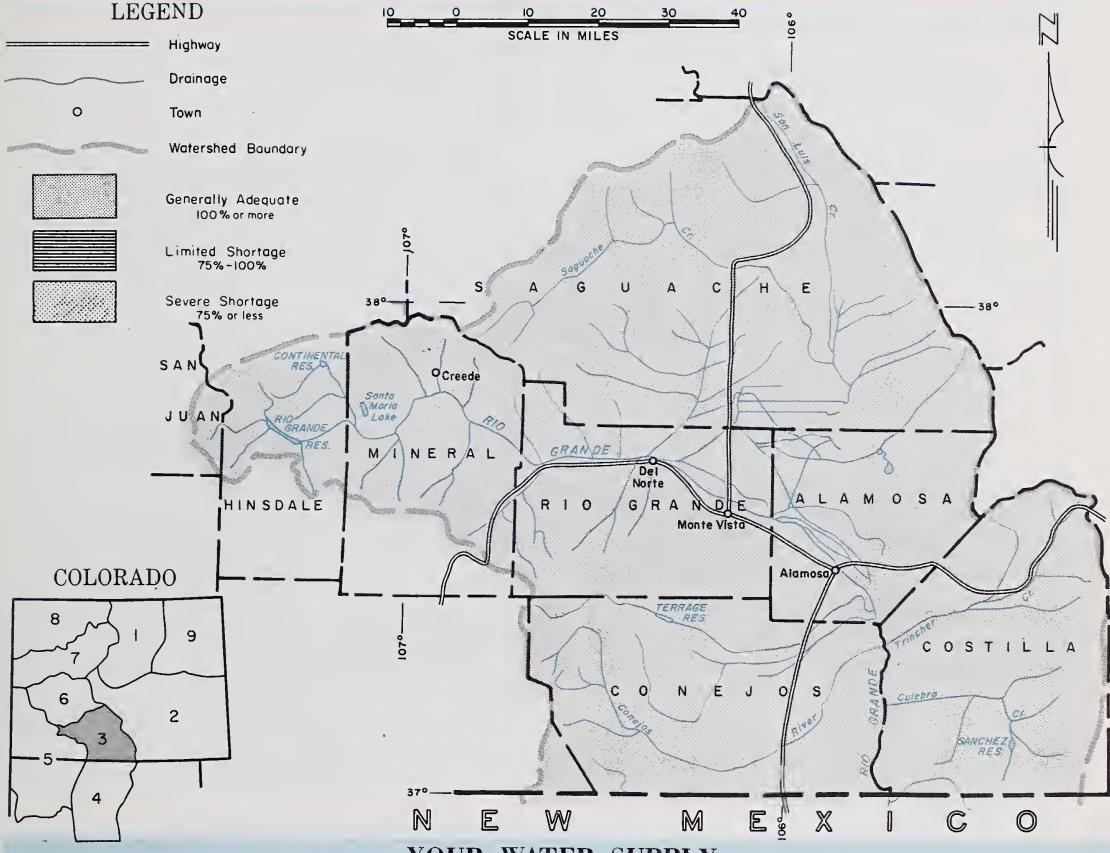
May 1, 1969

U. S. DEPARTMENT OF AGRICULTURE · SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION, STATE ENGINEERS OF COLORADO AND NEW MEXICO

LEGEND

- Highway
- Drainage
- O Town
- Watershed Boundary
- Generally Adequate 100% or more
- Limited Shortage 75%-100%
- Severe Shortage 75% or less

10 0 10 20 30 40
SCALE IN MILES



STREAMFLOW FORECASTS ON THE UPPER RIO GRANDE WERE DECREASED THIS MONTH

BECAUSE OF BELOW NORMAL SNOWFALL AND ABOVE AVERAGE TEMPERATURES. HOWEVER,
ALL FORECASTS ARE ABOVE NORMAL, RANGING FROM 112% TO 126% OF THE 1953-67
AVERAGE. CARRY-OVER RESERVOIR STORAGE IS 142% OF LAST YEAR AND 115% OF NORMAL.
MOISTURE CONDITIONS IN THE IRRIGATED AREAS ARE REPORTED AS FAIR.

This report prepared by

JACK N. WASHICHEK and RONALD E. MORELAND
SOIL CONSERVATION SERVICE, COLORADO STATE UNIVERSITY
FORT COLLINS, COLORADO

Issued by

F. A. MARK--STATE CONSERVATIONIST DONALD B. TOOELL--AREA CONSERVATIONIST
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
DENVER, COLORADO DURANGO, COLORADO

The Conservation of Water begins with the Snow Survey

STREAMFLOW FORECASTS (1,000 Ac. Ft.) Apr-Sept

WATER SUPPLY OUTLOOK expressed "Poor,Avg,Good"

STREAM and STATION	FORECAST	THIS YEAR %AVE.	15 YR. AVE. 1953-67
Alamosa abv Terrace	75	121	62
Conejos nr Mogote	230	126	182
Culebra at San Luis (60)	23	121	19
Rio Grande at 30 Mile Bridge (5)	140	120	117
Rio Grande ne Del Norte (5)	490	112	438
South Fork at South Fork	130	118	110

(5) Observed flow plus change in storage in Santa Maria, Rio Grande and Continental Reservoir.

(6) Observed flow plus changes in storage in Sanchez Reservoir.

SUMMARY of SNOW MEASUREMENTS

RIVER	NUMBER OF COURSES AVERAGED	THIS YEARS SNOW AS PERCENT OF	
		Last Year	Average
Alamosa	2	83	97
Conejos	3	88	153
Culebra	2	24	84
Rio Grande	10	63	98

AVAILABLE SOIL MOISTURE

RIVER BASIN	NUMBER of STATIONS	THIS YEARS MOISTURE AS PERCENT OF	
		Last Year	Average
Alamosa	2	97	100
Conejos	1	106	99
Culebra	1	96	98
Rio Grande	3	96	99

RESERVOIR STORAGE (1,000 Ac. Ft.) Measured First of Month

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVE. 1953-67
Continental	26.7	7.2	4.9	5.8
Platoro	60.0	3.3	4.0	8.1
Rio Grande	45.8	23.3	10.6	15.0

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVE. 1953-67
Sanchez	103.2	12.7	12.9	12.3
Santa Maria	45.0	4.7	3.4	6.9
Terrace	17.7	10.5	7.8	5.7

Return if not delivered
 UNITED STATES DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE
 SNOW SURVEY
 COLORADO STATE UNIVERSITY
 FORT COLLINS, COLORADO 80521

OFFICIAL BUSINESS

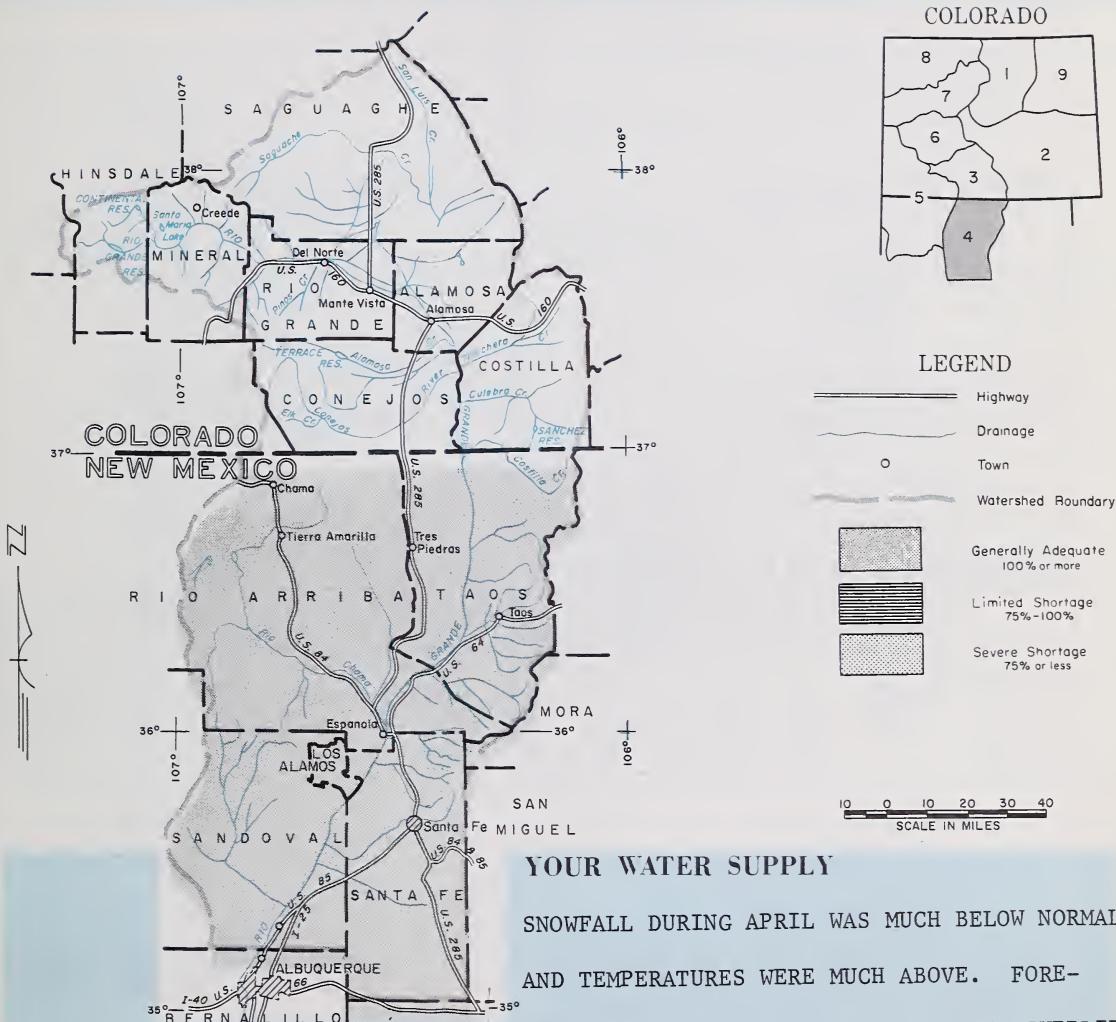
POSTAGE AND FEES PAID
 U. S. DEPARTMENT OF AGRICULTURE

FIRST CLASS MAIL

WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE
RIO GRANDE WATERSHED IN NEW MEXICO

as of
May 1, 1969

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION, STATE ENGINEERS OF COLORADO AND NEW MEXICO



YOUR WATER SUPPLY

SNOWFALL DURING APRIL WAS MUCH BELOW NORMAL
AND TEMPERATURES WERE MUCH ABOVE. FORE-
CASTS WERE LOWERED SLIGHTLY. WATER SUPPLIES

SHOULD STILL BE ADEQUATE. MOUNTAIN SOILS ARE WET FROM THE MELTING SNOW. VALLEY
SOIL MOISTURE IS REPORTED GOOD IN THE TAOS AREA AND ONLY FAIR IN OTHER AREAS.
SMALL STREAMS SHOULD FLOW GOOD MOST OF THE YEAR.

This report prepared by

JACK N. WASHICHEK and RONALD E. MORELAND
SOIL CONSERVATION SERVICE, COLORADO STATE UNIVERSITY
FORT COLLINS, COLORADO

Issued by

KENNETH L. WILLIAMS—STATE CONSERVATIONIST W.B. RUMSEY—AREA CONSERVATIONIST
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
ALBUQUERQUE, NEW MEXICO SANTA FE, NEW MEXICO

The Conservation of Water begins with the Snow Survey

STREAMFLOW FORECASTS (1,000 Ac. Ft.)

STREAM and STATION	FORECAST AS INDICATED	THIS YEAR % AVE.	15 YR. AVE. 1953-67
Costilla at Costilla (8)	23 M ₁	128	18
Pecos at Pecos	55 M ₁	134	41
Rio Chama into El Vado	300 M ₁	160	188
Rio Grande at Otowi (7)	700 M ₁	136	513
Rio Gra. at San Mar (7)	520 M ₁	156	334
Rio Hondo nr Valdez	18 M ₁	120	15
Red R. at mouth nr	36 M ₁	113	32

The Questa of the Rio Grande at San Marcial is 72% of the Average used by the Elephant Butte Irrigation District.

A - S is April through September.

A - J is April through July.

M - J is March through July.

(7) Observed flow plus changes in storage in El Vado and Abiquiu Res.

(8) Observed flow plus changes in storage in Costilla Reservoir.

WATER SUPPLY OUTLOOK expressed "Poor,Avg,Good"

STREAM	FLOW PERIOD	
	March May	June July
Embudo Creek	Good	Good
Jemez River	Good	Good
Mora River	Good	Good
Nambe Creek	Good	Good
Rio Ojo Caliente	Good	Good
Rio Pueblo de Taos	Good	Good

SUMMARY of SNOW MEASUREMENTS

RIVER	NUMBER of COURSES AVERAGED	THIS YEARS SNOW AS PERCENT OF	
		Last Year	Average

No snow measurements scheduled this month.

AVAILABLE SOIL MOISTURE

RIVER BASIN	NUMBER of STATIONS	THIS YEARS MOISTURE AS PERCENT OF	
		Last Year	Average

No soil moisture measurements scheduled this month.

RESERVOIR STORAGE (1,000 Ac. Ft.) Measured First of Month

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVE. 1953-67
Alamorgordo	111	32.0	44.4	63.8
Caballo	344	52.2	102.6	75.1
Conchas	275	111.1	171.1	149.6
Elephant Butte	2195	344.0	215.0	321.6

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVE. 1953-67
El Vado	195	3.7	7.0	31.0
McMillen-Avalon	32	20.7	14.0	12.1

Return if not delivered
 UNITED STATES DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE
 SNOW SURVEY
 COLORADO STATE UNIVERSITY
 FORT COLLINS, COLORADO 80521

OFFICIAL BUSINESS

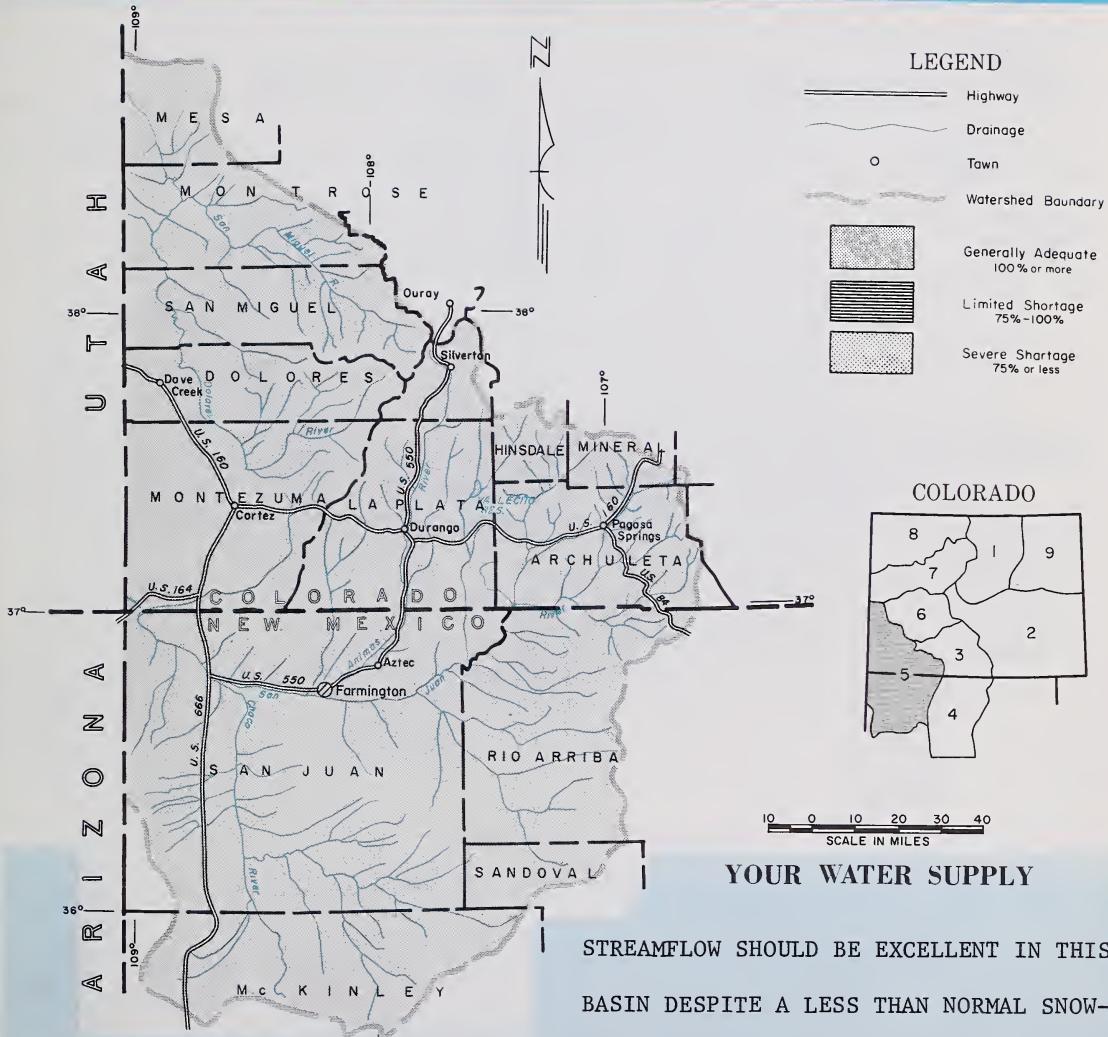
POSTAGE AND FEES PAID
 U. S. DEPARTMENT OF AGRICULTURE

FIRST CLASS MAIL

**WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE
SAN MIGUEL, DOLORES, ANIMAS, SAN JUAN WATER-
SHEDS IN COLORADO AND NEW MEXICO**

as of
May 1, 1969

**U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION, STATE ENGINEERS OF COLORADO AND NEW MEXICO**



FROM A LOW OF 125% ON THE SAN JUAN TO A HIGH OF 153% OF NORMAL ON PIEDRA CREEK.
FORECASTS ARE BASED ON NORMAL PRECIPITATION FOR THE REMAINDER OF THE YEAR.

This report prepared by

JACK N. WASHICK and RONALD E. MORELAND
SOIL CONSERVATION SERVICE, COLORADO STATE UNIVERSITY
FORT COLLINS, COLORADO

Issued by

F. A. MARK--STATE CONSERVATIONIST DENVER, COLORADO U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE DONALD B. TOTELL--AREA CONSERVATIONIST DURANGO, COLORADO	KENNETH L. WILLIAMS--STATE CONSERVATIONIST ALBUQUERQUE, NEW MEXICO W. B. RUMSEY--AREA CONSERVATIONIST SANTA FE, NEW MEXICO
---	---

The Conservation of Water begins with the Snow Survey

STREAMFLOW FORECASTS (1,000 Ac. Ft.) Apr-Sept

STREAM and STATION	FORECAST	THIS YEAR % AVE.	15 YR. AVE. 1953-67
Animas at Durango	545	133	409
Dolores at Dolores	335	145	231
La Plata at Hesperus	31	129	24
Los Pinos at Bayfield (9)	275	142	194
Piedra Creek at Piedra	250	153	163
San Juan at Carracas	475	125	379
Inflow to Navajo Res*(9)	940	152	619

(9) Observed flow plus changes in storage in Vallecito Reservoir (April-July)

WATER SUPPLY OUTLOOK expressed "Poor,Avg,Good"

STREAM	FLOW PERIOD		
	April May	June	Thru Sept.
Florida	Good	Good	
Mancos	Good	Good	
San Miguel	Good	Good	

SUMMARY of SNOW MEASUREMENTS

RIVER	NUMBER of COURSES AVERAGED	THIS YEARS SNOW AS PERCENT OF		15 YR. AVE. 1953-67
		Last Year	Average	
Animas	6	76	123	
Dolores	3	66	141	
San Juan	3	88	110	

AVAILABLE SOIL MOISTURE

RIVER BASIN	NUMBER of STATIONS	THIS YEARS MOISTURE AS PERCENT OF		15 YR. AVE. 1953-67
		Last Year	Average	
Animas	3	70	78	
Dolores	3	77	100	
San Juan	2	84	88	

RESERVOIR STORAGE (1,000 Ac. Ft.) Measured First of Month

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVE. 1953-67
Groundhog	22.0	14.0	12.8	9.1
Lemon	40.0	19.3	18.9	18.5
Navajo	1696.4	4894.5	601.0	326.1
Vallecito	126.0	94.5	48.5	59.3

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVE. 1953-67

Return if not delivered

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SNOW SURVEY
COLORADO STATE UNIVERSITY
FORT COLLINS, COLORADO 80521

OFFICIAL BUSINESS

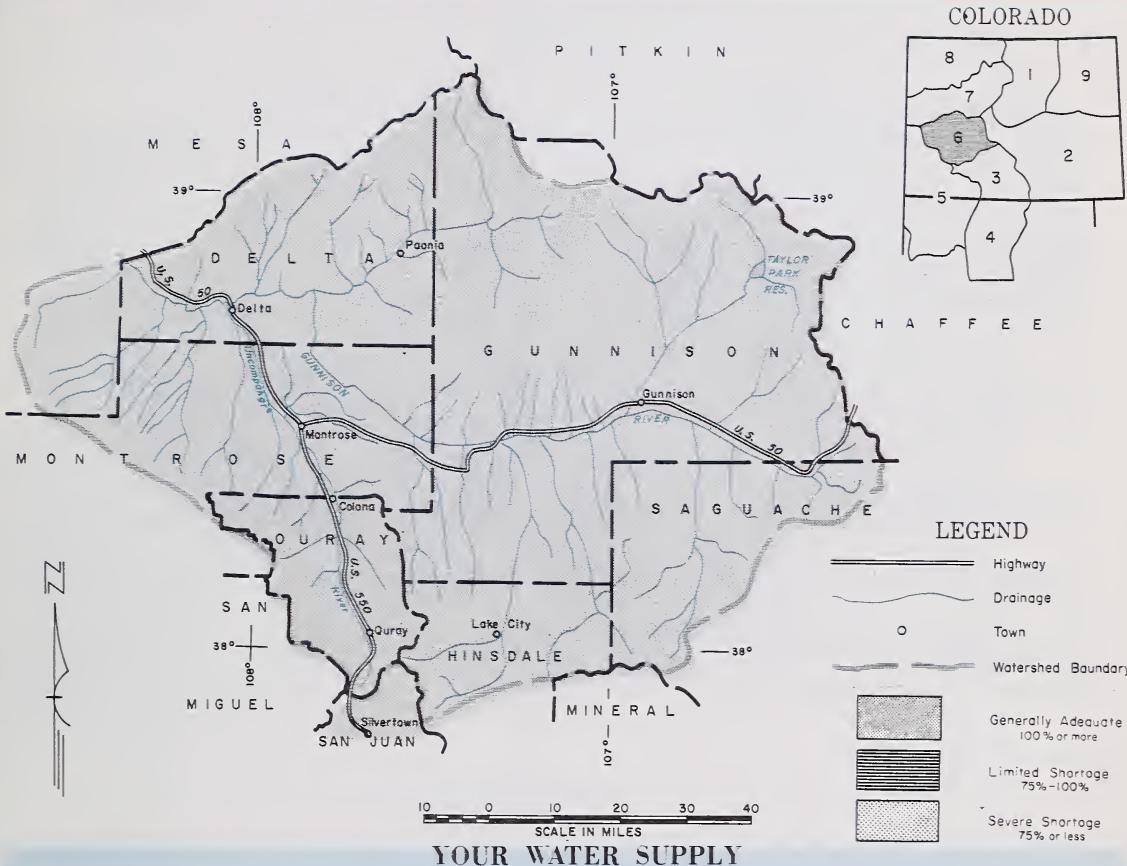
POSTAGE AND FEES PAID
U. S. DEPARTMENT OF AGRICULTURE

FIRST CLASS MAIL

WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE
GUNNISON RIVER WATERSHED IN COLORADO
as of

May 1, 1969

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION, STATE ENGINEERS OF COLORADO AND NEW MEXICO



STREAMFLOW FORECASTS WERE DECREASED 12 TO 15% FROM LAST MONTH, BUT ARE STILL MUCH ABOVE AVERAGE. FORECASTS ARE 119% FOR THE GUNNISON RIVER WHILE THE UNCOMPAGRE IS 128% AND SURFACE CREEK IS 128%. SNOWFALL WAS BELOW AVERAGE AND WARM TEMPERATURES HAVE CAUSED EARLY MELTING. RESERVOIR STORAGE IS 154% OF LAST YEAR WITH BLUE MESA CONTAINING 470,500 ACRE FEET, TAYLOR RESERVOIR 46,000 ACRE FEET AND MORROW POINT 106,900 ACRE FEET. SOIL MOISTURE CONDITIONS IN THE IRRIGATED AREAS ARE REPORTED AS GOOD.

This report prepared by

JACK N. WASHICKER and RONALD E. MORELAND
SOIL CONSERVATION SERVICE, COLORADO STATE UNIVERSITY
FORT COLLINS, COLORADO

Issued by

F. A. MARK—STATE CONSERVATIONIST
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
DENVER, COLORADO
EARL BEACH—AREA CONSERVATIONIST
GRAND JUNCTION, COLORADO

The Conservation of Water begins with the Snow Survey

STREAMFLOW FORECASTS (1,000 Ac. Ft.) Apr-Sept

STREAM and STATION	FORECAST	THIS YEAR % AVE.	15 YR. AVE. 1953-67
Gunnison nr Grand Junct.	1350	119	1137
Surface Cr. nr Cedaridge	22	138	16
Uncompahgre at Colona	165	128	129

WATER SUPPLY OUTLOOK expressed "Poor,Avg,Good"

STREAM	FLOW PERIOD	
	April May	June Thru Sept.
North Fork of Gunnison	Good	Good
Taylor	Good	Good

SUMMARY of SNOW MEASUREMENTS

RIVER	NUMBER of COURSES AVERAGED	THIS YEARS SNOW AS PERCENT OF	
		Last Year	Average
Gunnison	12	68	94
Surface Creek	3	92	117
Uncompahgre	3	53	89

AVAILABLE SOIL MOISTURE

RIVER BASIN	NUMBER of STATIONS	THIS YEARS MOISTURE AS PERCENT OF	
		Last Year	Average
Gunnison	1	74	100
Surface Creek	1	150	130
Uncompahgre	1	150	130

RESERVOIR STORAGE (1,000 Ac. Ft.) Measured First of Month

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVE. 1953-67
Blue Mesa	941.0	470.5	336.0	-
Morrow Point	- -	106.9	19.0	-
Taylor	106.2	46.0	51.0	59.0

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVE. 1953-67

Return if not delivered
 UNITED STATES DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE
 SNOW SURVEY
 COLORADO STATE UNIVERSITY
 FORT COLLINS, COLORADO 80521
 OFFICIAL BUSINESS

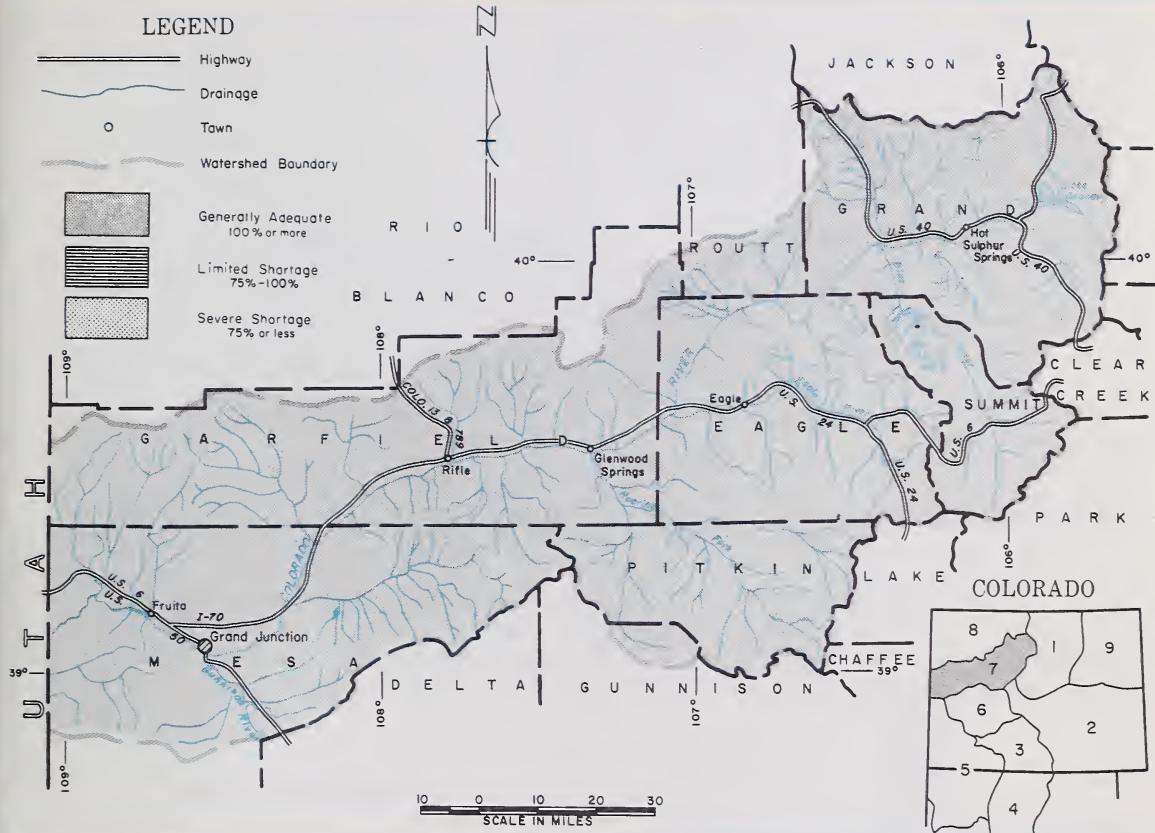
POSTAGE AND FEES PAID
 U. S. DEPARTMENT OF AGRICULTURE

FIRST CLASS MAIL

**WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE
COLORADO RIVER WATERSHED IN COLORADO**
as of

May 1, 1969

**U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION, STATE ENGINEERS OF COLORADO AND NEW MEXICO**



YOUR WATER SUPPLY

SNOWFALL WAS DEFICIENT DURING APRIL AND UNSEASONABLY WARM TEMPERATURES HAVE ALREADY TAKEN A TOLL OF THE SNOW PACK. FORECASTS WERE LOWERED, HOWEVER, THERE SHOULD BE SUFFICIENT WATER FOR IRRIGATION NEEDS. MOUNTAIN SOILS ARE WET FROM THE MELTING SNOW AND VALLEY SOILS ARE REPORTED TO BE IN GOOD CONDITION. STREAMFLOW FORECASTS ARE BASED ON NORMAL PRECIPITATION FOR THE REMAINDER OF THE YEAR.

This report prepared by

JACK N. KASHICHKEK and RONALD E. MORELLO
SOIL CONSERVATION SERVICE, COLORADO STATE UNIVERSITY
FORT COLLINS, COLORADO

Issued by

R.L. PORTER
AREA CONSERVATIONIST
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
DENVER, COLORADO

O.B. BEACH
AREA CONSERVATIONIST
GLENWOOD SPRINGS, COLORADO
GRAND JUNCTION, COLORADO

The Conservation of Water begins with the Snow Survey

STREAMFLOW FORECASTS (1,000 Ac. Ft.) Apr-Sept

WATER SUPPLY OUTLOOK expressed "Poor,Avg,Good"

STREAM and STATION	FORECAST	THIS YEAR %AVE.	15 YR. AVE. 1953-67
Blue Rv abv Green Mt (10)	175	74	236
Colo. Rv inflow to Granby Res. (11)	210	96	219
Colo. Rv. nr Dotsero (12)	1470	107	1375
Roaring Fk at Gl. Spr (14)	750	108	692
Will. Fk nr Parshall (15)	55	92	60
Will. Cr. inflow to Will. Cr. Res. (13)	52	113	46
Colo. nr Cameo (12)	2400	108	2216

(10) Observed flow plus change in storage in Dillon Reservoir.

(11) Observed flow diversions by Adams Tunnel and Grand River Ditch plus change in storage in Granby Reservoir.

(12) Observed flow plus the changes as indicated in (11) plus Moffat Ditch.

(14) Observed flow plus diversion through Twin Lakes Tunnel.

(15) Observed flow plus diversions through Jones Pass Tunnel.

STREAM	FLOW PERIOD		
	April May	June	Thru Sept.
Brush	Good	Good	
Eagle River	Good	Good	
Gypsum Creek	Good	Good	

SUMMARY of SNOW MEASUREMENTS

RIVER	NUMBER of COURSES AVERAGED	THIS YEARS SNOW AS PERCENT OF	
		Last Year	Average
Blue River	8	62	69
Colorado	22	56	73
Roaring Fork	7	57	82
Williams Fork	3	43	57
Willow	2	66	89
Plateau	3	96	116

AVAILABLE SOIL MOISTURE

RIVER BASIN	NUMBER of STATIONS	THIS YEARS MOISTURE AS PERCENT OF	
		Last Year	Average
Blue River	1	104	93
Colorado	5	108	106
Roaring Fork	1	78	86
Willow	1	103	99

RESERVOIR STORAGE (1,000 Ac. Ft.) Measured First of Month

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVE. 1953-67
Dillon	254.0	228.3	222.0	134.0
Granby	466.0	141.7	91.5	205.0
Green Mountain	147.0	58.9	41.4	43.0

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVE. 1953-67
Vega	9.0	17.0	4.0	13.0
Williams Fork	32.1	29.6	21.0	34.0
Willow Creek	96.8	6.8	5.7	- -

Return if not delivered
 UNITED STATES DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE
 SNOW SURVEY
 COLORADO STATE UNIVERSITY
 FORT COLLINS, COLORADO 80521

OFFICIAL BUSINESS

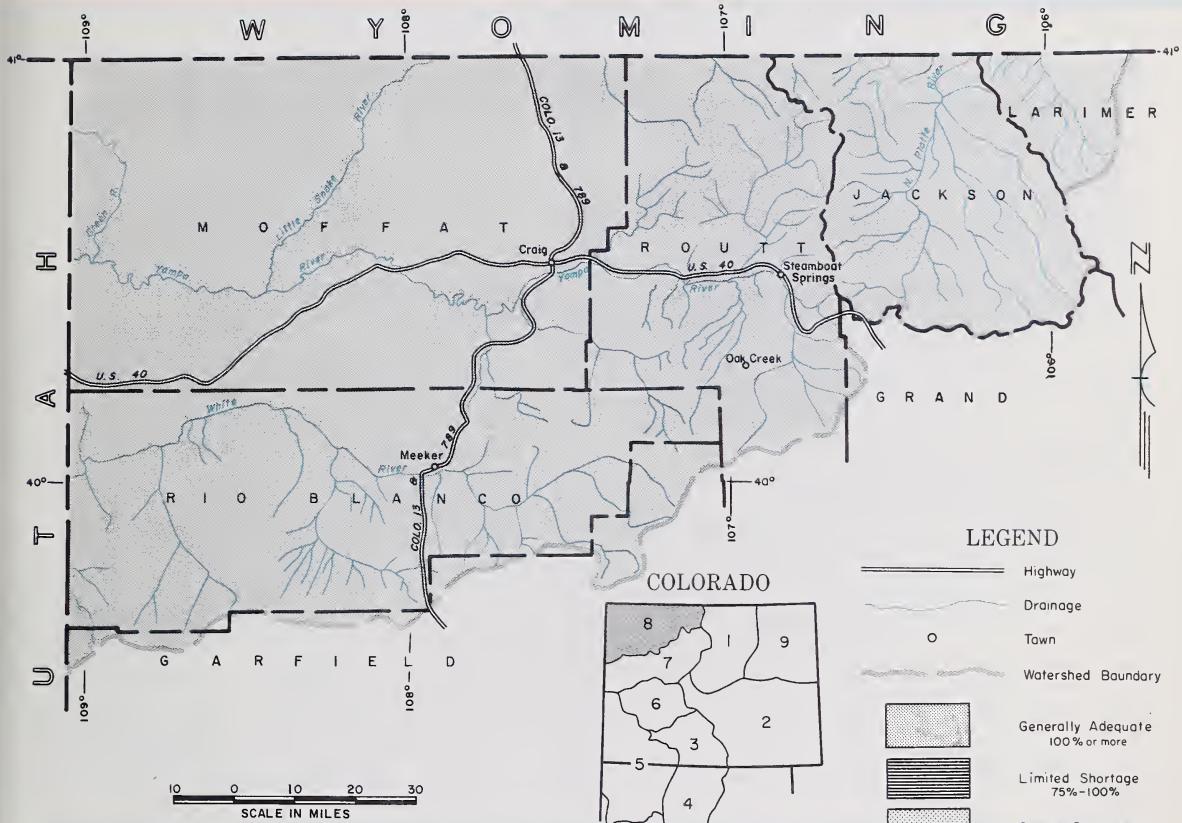
POSTAGE AND FEES PAID
 U. S. DEPARTMENT OF AGRICULTURE

FIRST CLASS MAIL

**WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE
YAMPA, WHITE, AND NORTH PLATTE RIVER WATERSHEDS
IN COLORADO**

as of
May 1, 1969

**U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION, STATE ENGINEERS OF COLORADO AND NEW MEXICO**



YOUR WATER SUPPLY

SNOW REMAINS GOOD OVER THE BASIN EVEN THOUGH APRIL SNOWFALL WAS BELOW NORMAL. FORECASTS DROPPED SLIGHTLY, BUT THERE SHOULD STILL BE ADEQUATE WATER TO SUPPLY DEMANDS. WARM TEMPERATURES HAVE STARTED SNOW MELT ALREADY AT THE LOWER ELEVATIONS. VALLEY SOILS ARE IN GOOD CONDITION. FORECASTS ARE NEAR NORMAL AND ARE BASED ON AVERAGE PRECIPITATION FOR THE REMAINDER OF THE YEAR.

This report prepared by

JACK N. WASHICHEK and RONALD E. MORELAND
SOIL CONSERVATION SERVICE, COLORADO STATE UNIVERSITY
FORT COLLINS, COLORADO

Issued by

F. A. MARK--STATE CONSERVATIONIST R.L. PORTER--AREA CONSERVATIONIST
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
DENVER, COLORADO GLENWOOD SPRINGS, COLORADO

The Conservation of Water begins with the Snow Survey

STREAMFLOW FORECASTS (1,000 Ac. Ft.) Apr-Sept

STREAM and STATION	FORECAST	THIS YEAR %AVE.	15 YR. AVE. 1953-67
Elk at Clark	205	107	191
Laramie at Jelm	104	100	104
Little Snake at Lily	325	117	277
North Platte at Northgate	230	102	225
White nr Meeker	280	96	293
Yampa nr Maybell	860	101	853
Yampa at Steamboat Spr.	250	96	260

WATER SUPPLY OUTLOOK expressed "Poor,Avg,Good"

STREAM	FLOW PERIOD	
	April May	June Thru Sept.
Canadian River	Good	Good
Hunt Creek	Good	Good
Illinois River	Good	Good
Michigan River	Good	Good
Oak Creek	Good	Good
Trout Creek	Good	Good

SUMMARY of SNOW MEASUREMENTS

RIVER	NUMBER of COURSES AVERAGED	THIS YEARS SNOW AS PERCENT OF	
		Last Year	Average
Elk	3	47	89
Laramie	3	60	74
North Platte	5	73	95
White	3	43	70
Yampa	6	50	71

AVAILABLE SOIL MOISTURE

RIVER BASIN	NUMBER of STATIONS	THIS YEARS MOISTURE AS PERCENT OF	
		Last Year	Average
Laramie	2	147	113
North Platte	2	120	99
Yampa	1	90	63

Return if not delivered
 UNITED STATES DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE
 SNOW SURVEY
 COLORADO STATE UNIVERSITY
 FORT COLLINS, COLORADO 80521

OFFICIAL BUSINESS

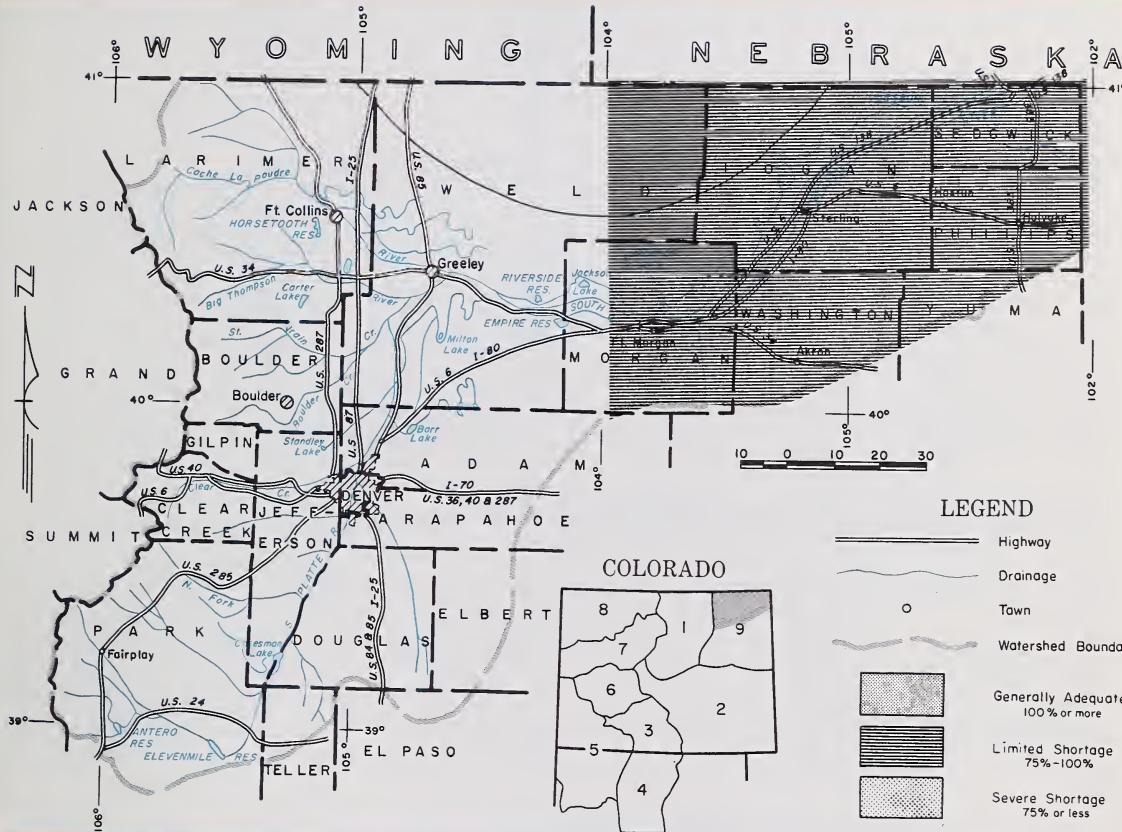
POSTAGE AND FEES PAID
 U. S. DEPARTMENT OF AGRICULTURE

FIRST CLASS MAIL

**WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE
LOWER SOUTH PLATTE RIVER WATERSHED IN COLORADO**

as of
May 1, 1969

U. S. DEPARTMENT OF AGRICULTURE · SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION, STATE ENGINEERS OF COLORADO AND NEW MEXICO



YOUR WATER SUPPLY

SNOWFALL WAS MUCH BELOW NORMAL ON THE SOUTH PLATTE DURING APRIL. STREAMFLOW FORECASTS WERE LOWERED 5 TO 10%. VALLEY SOILS ARE ALSO REPORTED IN POOR CONDITION. ABOVE SEASONAL TEMPERATURES HAVE STARTED SNOW MELT AT LOW ELEVATION SNOW COURSES. MOUNTAIN SOILS ARE WET. IF THIS TEMPERATURE CONTINUES EARLY RUNOFF CAN BE EXPECTED. RESERVOIRS IN THIS AREA HAVE SLIGHTLY BETTER STORAGE THAN NORMAL. THIS WILL HELP OFFSET THE BELOW NORMAL RUNOFF.

This report prepared by

JACK N. WASHIGEK and RONALD E. MORELANDO
SOIL CONSERVATION SERVICE, COLORADO STATE UNIVERSITY
FORT COLLINS, COLORADO

Issued by

F. A. MARK—STATE CONSERVATIONIST
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
DENVER, COLORADO
J. L. HALL—AREA CONSERVATIONIST
STERLING, COLORADO

The Conservation of Water begins with the Snow Survey

STREAMFLOW FORECASTS (1,000 Ac. Ft.) Apr-Sept

STREAM and STATION	FORECAST	THIS YEAR % AVE.	15 YR. AVE. 1953-67
Big Thompson at Drake (2)	80	80	100
Boulder at Orodell	38	78	49
Cache La Poudre at Canon Mouth (1)	165	77	215
Clear Creek at Golden (3)	92	77	119
Saint Vrain at Lyons	46	66	70

WATER SUPPLY OUTLOOK expressed "Poor,Avg,Good"

STREAM	FLOW PERIOD	
	April May	June Thru Sept.
South Platte from Greeley to Fort Morgan	Good	Avg.
South Platte from Fort Morgan to Sterling	Good	Avg.
South Platte to below Sterling	Good	Avg.

SUMMARY of SNOW MEASUREMENTS

RIVER	NUMBER of COURSES AVERAGED	THIS YEARS SNOW AS PERCENT OF	
		Last Year	Average
Boulder	3	40	58
Big Thompson	5	64	70
Cache La Poudre	8	60	81
Clear Creek	5	62	63
Saint Vrain	3	36	39
South Platte	2	50	66

AVAILABLE SOIL MOISTURE

RIVER BASIN	NUMBER of STATIONS	THIS YEARS MOISTURE AS PERCENT OF	
		Last Year	Average
South Platte	2	116	103
Clear Creek	2	105	115
Boulder	1	85	77
Saint Vrain	2	107	107
Big Thompson	3	114	115
Cache La Poudre	2	147	113

RESERVOIR STORAGE (1,000 Ac. Ft.) Measured First of Month

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVE. 1953-67
Carter	108.9	90.8	98.8	86.4
Cheesman	79.0	49.6	51.9	50.2
Eleven Mile	97.8	94.6	93.9	72.9
Empire	37.7	33.3	34.4	29.0
Horsetooth	143.5	116.8	124.3	116.9

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVE. 1953-67
Jackson	35.4	34.4	34.4	33.7
Julesburg	28.2	20.8	22.4	22.1
Prewitt	32.8	23.7	25.6	17.5
Point of Rocks	70.0	69.8	69.5	60.8
Riverside	57.5	57.2	57.9	51.0

Return if not delivered
 UNITED STATES DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE
 SNOW SURVEY
 COLORADO STATE UNIVERSITY
 FORT COLLINS, COLORADO 80521

OFFICIAL BUSINESS

POSTAGE AND FEES PAID
 U. S. DEPARTMENT OF AGRICULTURE

FIRST CLASS MAIL

APPENDIX I

SNOW COURSE MEASUREMENTS as of May 1, 1969

SNOW COURSE	DATE OF SURVEY	CURRENT INFORMATION		PAST RECORD	
		SNOW DEPTH (INCHES)	AATER CONTENT (INCHES)	WATER CONTENT (INCHES)	LAST YEAR
NORTH PLATTE BASIN					
<u>Laramie River</u>					
Deadman	4/29	35	10.5	20.9	17.1
McIntyre	4/21	25	9.4	12.8	9.4
Roach	4/21	53	13.6	21.9	18.7
<u>North Platte River</u>					
Cameron Pass	4/28	74	31.8	32.9	28.4
Columbine Lodge	4/28	36	15.0	23.2	21.4
Northgate	4/28	4	1.2	10.5	2.7
Park View	4/29	17	6.0	9.2	5.6
Willow Cr. Pass (B)	4/29	29	11.0	13.3	10.0
SOUTH PLATTE BASIN					
<u>Boulder Creek</u>					
Baltimore	4/29	2	0.6	7.4	2.9
Boulder Falls	4/28	24	7.5	20.7	11.9
University Camp	4/28	36	12.5	23.8	20.7
<u>Big Thompson River</u>					
Deer Ridge	4/26	0	0.0	5.1	2.6
Hidden Valley	4/27	17	5.6	11.5	12.0
Lake Irene (B)	4/28	50	17.1	24.7	22.4
Long's Peak	4/26	27	8.9	14.4	12.0
Two Mile	4/26	44	14.7	16.5	17.0
<u>Cache La Poudre</u>					
Bennett Creek	4/29	2	0.6	7.2	--
Big South	4/27	2	0.3	1.9	0.6
Cameron Pass	4/28	74	31.8	32.9	28.4
Chambers Lake	4/27	8	3.4	9.8	5.3
Deadman Hill	4/29	35	10.5	20.9	17.1
Hour Glass Lake	4/29	10	3.0	7.2	5.6
Joe Wright	4/28	61	23.8	29.5	--
Lost Lake	4/27	21	6.2	12.3	8.9
Pine Creek	4/29	0	0.0	0.5	0.1
Red Feather	4/29	5	1.6	8.8	4.4
<u>Clear Creek</u>					
Berthoud Falls	4/29	19	6.3	11.4	12.1
Empire	4/29	11	4.2	8.2	6.8
Grizzly Peak (B)	4/28	40	14.2	19.4	19.4
Loveland Lift	4/29	49	17.7	27.2	25.3
Loveland Pass	4/29	19	7.1	13.7	14.5
<u>Saint Vrain River</u>					
Copeland Lake	4/26	1	0.5	2.5	1.7
Ward	4/29	4	1.3	7.3	5.4
Wild Basin	4/25	21	5.8	11.1	12.2
<u>South Platte River</u>					
Como	4/28	6	2.2	7.9	--
Geneva Park	5/1	1	0.1	2.2	1.2
Horseshoe Mt.	4/28	22	7.0	10.6	--
Hoosier Pass	4/28	28	9.4	14.6	12.0
Jefferson Creek	4/29	11	3.9	9.7	7.1
Mosquito	4/28	2	0.7	7.9	--
Trout Creek Pass	4/28	0	0.0	1.5	--
ARKANSAS BASIN					
<u>Arkansas River</u>					
Bigelow Divide	4/29	0	0.0	12.1	2.2
Cooper Hill (B)	4/28	37	10.2	12.9	11.1
East Fork	4/28	11	3.4	9.2	7.4
Four Mile Park	4/29	0	0.0	2.5	1.0
Fremont Pass	4/28	45	14.7	19.8	17.9
Garfield	4/29	14	5.9	14.2	8.5
Monarch Pass	4/29	30	12.3	17.9	16.5
Tennessee Pass	4/29	13	5.7	10.5	7.7
Twin Lakes Tunnel	4/29	17	5.5	10.3	8.7
Westcliffe	4/29	0	0.0	8.7	1.0

SNOW COURSE	DATE OF SURVEY	CURRENT INFORMATION		PAST RECORD	
		SNOW DEPTH (INCHES)	AATER CONTENT (INCHES)	WATER CONTENT (INCHES)	LAST YEAR
Cucharas River					
Blue Lakes	NS				-- 0.5
Cucharas Pass	4/30	0	0.0	12.3	--
LaVeta Pass (B)	4/28	0	0.0	8.9	1.6
<u>Purgatorie River</u>					
Bourbon	4/29	0	0.0	9.9	1.7
RIO GRANDE BASIN-COLO					
<u>Alamosa River</u>					
Silver Lakes	4/24	0	0.0	2.0	0.6
Summitville	4/28	51	19.0	21.0	19.0
<u>Conejos River</u>					
Cumbres	4/29	37	22.6	21.6	12.6
Platoro	4/29	29	12.7	16.8	9.9
River Springs	4/30	0	0.0	1.6	0.5
<u>Culebra River</u>					
Brown Cabin	4/30	0	0.0	2.0	--
Cottonwood (B)	4/30	0	0.0	--	--
Culebra	4/30	10	4.3	8.7	3.5
LaVeta Pass (B)	4/28	0	0.0	8.9	1.6
Trinchera (B)	4/30	14	4.7	10.1	--
<u>Rio Grande</u>					
Cochetopa Pass	4/24	8	2.1	7.8	2.6
Grayback	4/24	36	13.6	14.7	--
Hiway	4/29	63	27.6	29.5	28.1
Lake Humphrey	4/25	2	0.7	6.0	0.4
Love Lake	4/25	9	3.4	11.4	--
Pass Creek	4/29	0	0.0	12.6	3.9
Pool Table	4/25	7	1.6	7.6	1.9
Porcupine	4/25	17	5.5	10.9	6.6
Santa Maria	4/29	0	0.0	4.0	0.5
Upper Rio Grande	4/29	4	1.2	9.6	1.8
Wolf Cr. Pass	4/29	46	24.3	31.6	22.0
Wolf Cr. Summit	4/29	76	32.9	33.2	30.0
SAN JUAN-DOLORES					
<u>Animas River</u>					
Cascade	4/28	15	6.5	11.7	3.6
Lemon	4/29	0	0.0	6.2	--
Mineral Creek	4/28	29	12.6	21.9	10.5
Molas Lake	4/28	24	10.4	14.2	6.8
Purgatory	NS			24.6	--
Red Mountain	4/28	68	32.2	40.0	30.3
Silverton Sub-Sta	4/20	0	0.0	2.1	0.1
Spud Mountain	4/28	61	28.7	29.4	22.2
<u>Dolores River</u>					
Lizard Head	4/30	37	22.3	25.2	12.9
Lone Cone	4/29	20	9.3	15.7	--
Rico	4/29	0	0.0	--	0.4
Telluride	4/28	0	0.0	5.0	0.8
Trout Lake	4/28	22	8.9	17.4	8.5
<u>San Juan River</u>					
Chama Divide (B)	4/29	0	0.0	0.0	--
Chamita (B)	4/29	0	0.0	1.7	--
Upper San Juan	4/29	55	29.4	34.2	26.6
Wolf Cr. Pass (B)	4/29	46	24.3	31.6	22.0
Wolf Cr. Summit	4/29	76	32.9	33.2	30.0

APPENDIX I

SNOW COURSE MEASUREMENTS as of May 1, 1969

SNOW COURSE	DATE OF SURVEY	CURRENT INFORMATION		PAST RECORD		
		SNOW DEPTH INCHES	WATER CONTENT INCHES	AFTER CONTENT INCHES LAST YEAR	AFTER CONTENT INCHES AVERAGE 53 67	
GUNNISON BASIN						
<u>Gunnison River</u>						
Alexander Lake	4/30	48	25.3	28.9	21.0	
Black Mesa		NS		--	15.8	
Blue Mesa	4/29	0	0.0	6.5	1.9	
Butte	4/28	37	14.1	17.9	--	
Cochetopa Pass (B)	4/24	8	2.1	7.8	2.6	
Crested Butte	4/27	8	3.7	12.0	7.1	
Keystone	4/28	34	14.6	20.9	17.1	
Lake City	4/25	10	2.6	9.1	3.5	
Long Gulch		NS		--	--	
Mesa Lakes (B)	4/28	33	15.0	21.6	15.1	
McClure Pass	4/26	16	6.7	15.9	9.3	
Park Cone	4/29	14	6.6	8.5	7.7	
Park Reservoir	4/28	60	29.6	26.7	23.6	
Porphyry Creek	4/29	31	12.9	17.1	16.5	
Tomichi	4/29	19	8.8	13.0	10.0	
<u>Surface Creek</u>						
Alexander Lake	4/30	48	25.3	28.9	21.0	
Mesa Lakes (B)	4/28	33	15.0	20.6	15.1	
Park Reservoir	4/28	60	29.6	26.7	23.6	
<u>Uncompahgre River</u>						
Ironton Park	4/29	4	1.3	17.7	6.7	
Red Mountain Pass	4/28	68	32.2	40.0	30.3	
Telluride (B)	4/28	0	0.0	5.0	0.8	
COLORADO BASIN (Main)						
<u>Blue River</u>						
Blue River	4/28	7	2.3	7.5	6.4	
Fremont Pass	4/28	45	14.7	19.8	17.9	
Frisco	4/28	1	0.2	6.2	4.6	
Grizzley Peak	4/28	40	14.2	19.4	19.4	
Hoosier Pass (B)	4/28	28	9.4	14.6	12.0	
Shrine Pass	4/28	45	17.4	19.5	18.7	
Snake River	4/28	0	0.0	5.1	3.5	
Summit Ranch	4/29	6	2.2	5.4	4.8	
<u>Colorado River</u>						
Arrow	4/28	21	8.0	14.2	9.2	
Berthoud Pass	4/28	40	13.0	18.3	14.3	
Berthoud Summit	4/29	42	12.2	20.5	20.6	
Cooper Hill	4/28	37	10.2	12.9	11.1	
Fiddler Gulch	4/28	33	9.4	16.4	14.7	
Glen Mar Ranch	4/29	3	1.5	6.3	3.8	
Gore Pass	4/30	12	4.6	10.5	7.3	
Grand Lake	4/28	11	3.3	8.0	3.4	
Lake Irene	4/28	50	17.1	24.7	22.4	
Lapland	5/1	6	2.0	7.1	6.9	
Lulu	4/29	46	15.1	22.1	18.3	
Lynx Pass	4/30	11	4.0	14.4	7.1	
McKenzie Gulch	4/29	0	0.0	3.0	0.6	
Middle Fork	4/29	9	3.0	8.5	5.7	
Milner	4/28	30	10.3	16.3	12.0	
North Inlet	4/27	14	4.0	10.1	5.9	
Pando	4/28	12	4.4	9.4	7.7	
Phantom Valley	4/28	16	5.8	12.6	6.2	
Ranch Creek	4/28	26	8.8	10.5	9.0	
Tennessee Pass	4/29	13	5.7	10.5	7.7	
Vail Pass	4/28	26	10.2	17.7	15.0	
Vasquez	4/28	27	9.3	15.0	12.4	

SNOW COURSE	DATE OF SURVEY	CURRENT INFORMATION		PAST RECORD	
		SNOW DEPTH INCHES	WATER CONTENT INCHES	AFTER CONTENT INCHES LAST YEAR	AFTER CONTENT INCHES AVERAGE 53 67
Roaring Fork River					
Aspen	4/27	42	16.0	20.6	16.0
Chapman	4/26	25	8.6	13.5	-
Independence Pass	4/30	28	9.4	18.4	16.2
Ivanhoe	4/29	33	11.7	19.2	17.3
Kiln	4/29	11	4.2	10.7	-
Last Chance	4/26	24	7.3	11.9	-
Lift	4/27	43	16.4	22.3	18.0
McClure Pass	4/26	16	6.7	15.9	9.3
Nast	4/29	0	0.0	4.3	1.8
North Lost Trail	4/26	16	5.7	15.6	7.5
Williams Fork River					
Glen Mar Ranch	4/29	3	1.5	6.3	3.8
Jones Pass	4/25	30	9.7	18.4	15.4
Middle Fork	4/29	9	3.0	8.6	5.7
Willow Creek					
Granby	4/29	3	1.1	5.1	3.6
Willow Cr. Pass	4/29	29	11.0	13.3	10.0
Plateau Creek					
Mesa Lakes	4/28	33	15.0	20.6	15.1
Park Reservoir	4/28	60	29.6	26.7	23.6
Trickle Divide	4/28	61	30.8	30.9	26.5
YAMPA BASIN					
<u>Elk River</u>					
Clark	4/28	3	1.1	10.2	3.1
Elk River	4/28	32	14.2	20.5	13.6
Hahn's Peak	4/28	15	6.6	16.2	7.8
<u>White River</u>					
Burro Mountain	4/29	21	9.5	22.8	14.5
Rio Blanco	4/28	12	6.9	15.8	9.1
<u>Yampa River</u>					
Bear River	4/29	5	2.1	13.0	7.4
Columbine Ldg. (B)	4/28	36	15.0	23.2	21.4
Dry Lake	4/30	29	13.1	24.1	15.2
Lynx Pass (B)	4/30	11	4.0	14.4	7.1
Rabbit Ears	4/28	60	23.1	30.5	25.9
Yampa View	4/28	8	3.6	16.2	8.4

APPENDIX II

SOIL MOISTURE MEASUREMENTS as of May 1, 1969

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	Avg. All Data
NORTH PLATTE BASIN					
<u>North Platte River</u>					
Muddy Pass	4/28	11.1	8.3	6.1	8.4
Willow Pass	4/29	9.5	6.9	6.7	7.0
SOUTH PLATTE BASIN					
<u>Boulder Creek</u>					
Alpine Camp	4/24	6.9	3.3	3.9	4.3
<u>Big Thompson River</u>					
Beaver Dam	4/24	7.1	6.3	5.1	4.7
Guard Station	4/24	6.9	5.0	3.9	4.5
Two Mile	4/24	9.1	5.5	5.7	5.4
<u>Clear Creek</u>					
Clear Creek	4/29	9.5	6.3	6.2	5.7
Hoop Creek	4/29	4.9	3.8	3.4	3.1
<u>Cache La Poudre River</u>					
Feather	4/24	10.1	9.3	5.5	7.9
Laramie Road	4/27	12.4	9.4	7.2	8.7
<u>South Platte River</u>					
Hoosier Pass	4/28	7.8	5.0	5.1	5.4
Kenosha Pass	4/29	4.4	4.2	2.8	3.5
ARKANSAS BASIN					
<u>Arkansas River</u>					
Garfield	4/29	6.7	4.1	6.4	4.8
Leadville	4/28	7.8	3.3	5.6	4.9
Twin Lakes Tunnel	4/28	4.5	2.8	2.8	3.1
RIO GRANDE BASIN - COLORADO					
<u>Conejos River</u>					
Mogote	4/29	10.7	8.7	8.2	8.8
<u>Rio Grande</u>					
Alberta Park	4/28	8.2	5.8	5.6	5.7
Bristol View	4/25	6.1	4.6	5.1	4.7
LaVeta Pass	4/28	11.9	11.4	11.9	11.6
ANIMAS-SAN JUAN BASINS					
<u>Animas River</u>					
Cascade	4/28	9.1	6.0	8.4	7.7
Mineral Creek	4/28	5.7	4.0	5.2	4.5
Molas Lake	4/28	9.4	4.6	7.6	6.6
<u>Dolores River</u>					
Dolores	4/29	19.6	12.0	14.3	12.2
Lizard Head	4/29	11.8	5.3	8.1	8.2
Rico	4/29	13.8	10.4	13.8	7.3
GUNNISON BASIN					
<u>Gunnison River</u>					
King	4/29	3.3	2.3	3.1	2.3
COLORADO BASIN (MAINTREAM)					
<u>Blue River</u>					
Blue River	4/28	4.2	2.8	2.7	3.0
<u>Colorado River</u>					
Berthoud Pass	4/28	3.9	2.9	2.5	2.9
Gore	4/30	4.9	4.6	4.5	4.1
Grand Mesa	4/28	12.5	12.9	8.6	9.9
Ranch Creek	4/28	8.7	6.0	5.7	6.2
Vail	4/28	12.3	9.1	11.7	10.5
<u>Roaring Fork River</u>					
Placita	4/26	9.3	6.5	8.3	7.6
YAMPA BASIN					
<u>Yampa River</u>					
Hahn's Peak	4/28	19.0	9.5	10.5	15.0

LIST of COOPERATORS

The following organizations cooperate in snow surveys for the Colorado, Platte, Arkansas and Rio Grande watersheds. Many other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.

STATE

Colorado State Engineer
New Mexico State Engineer
Nebraska State Engineer
Colorado Experiment Station
Rocky Mountain Forest and Range Experiment Station

FEDERAL

Department of Agriculture

Forest Service
Soil Conservation Service

Department of Interior

Bureau of Reclamation
Geological Survey
National Park Service
Indian Service

Department of Commerce

Weather Bureau

War Department

Army Engineer Corps

Atomic Energy Commission

INVESTOR OWNED UTILITIES

Colorado Public Service Company
Public Service Company of New Mexico

MUNICIPALITIES

City of Denver City of Greeley
City of Boulder City of Fort Collins

WATER USERS ORGANIZATIONS

Arkansas Valley Ditch Association
Colorado River Water Conservation District

IRRIGATION PROJECTS

Farmers Reservoir and Irrigation Company
San Luis Valley Irrigation District
Santa Maria Reservoir Company
Costilla Land Company
Uncompahgre Valley Water Users' Association
Twin Lakes Reservoir and Canal Company
Trinchera Irrigation Co.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SNOW SURVEY UNIT
COLORADO STATE UNIVERSITY
FORT COLLINS, COLORADO 80521

OFFICIAL BUSINESS

U. S. POSTAGE AND FEES PAID
U. S. DEPARTMENT OF AGRICULTURE

FIRST CLASS MAIL

FEDERAL - STATE - PRIVATE

COOPERATIVE SNOW SURVEYS

Furnishes the basic data
necessary for forecasting
water supply for irrigation,
domestic and municipal water
supply, hydro-electric power
generation, navigation,
mining and industry

*"The Conservation of Water begins
with the Snow Survey"*